# DISTRIBUTED ENERGY RESOURCES THE POWER TO CHOOSE

Creating an Expanded DER Industry

1st DOE Distributed Energy Resources
Conference and Peer Review

November 28-30, 2001 Loew's L'Enfant Plaza Hotel Washington, D.C.



U.S. Department of Energy Office of Power Technologies Distributed Energy Resources





## Wednesday, November 28th

10:00 a.m. Optional Tour: University of Maryland Test Facility, Integrated Buildings Energy System. Transportation

provided.

12:30 ρ.m. Check-in/Registration

1:30 ρ.m. **Opening Plenary Session** 

Welcome by DOE

• Keynote Addresses: Benefits of Distributed Energy

to the U.S. and End-Users

2:30 p.m. **Related Strategic DER Efforts** 

(CEC, NYSERDA, EPRI, GTI, and EPA)

5:30 ρ.m. Adjourn

6:00 p.m. Reception

# Thursday, November 29th

7:30 a.m. Continental Breakfast

8:30 a.m. Overview of the Office of Power Technologies, the DER Program, and the Importance of Peer Review

9:00 a.m. Technology Program Presentations

Microturbines

• Reciprocating Engines

• Industrial Gas Turbines

Building Fuel Cells

12:15 ρ.m. Luncheon & Presentation

"Impact of Electricity Restructuring on Distributed

Energy Resource Development"

1:15 p.m. Technology Program Presentations (continued)

• Energy Storage

• Thermally Activated and Packaged Systems for Buildings

3:00 p.m. Systems Integration Activities

• CHP and Industrial Distributed Generation

• Distributed Power and Transmission and Distribution

5:00 ρ.m. Adjourn

# Friday, November 30th

7:00 a.m. Continental Breakfast

8:00 a.m. Re-cap, Summary of Support Activities, and

Introduction of New Opportunities

8:05 a.m. Update of DER Activities in Federal Facilities (FEMP)

8:30 a.m. **DER Activities at DOE Regional Offices** 

9:30 a.m. DER Laboratory Network Update

11:00 a.m. New Opportunities

• Hybrid Systems

• Communications and Control Systems

12:30 ρ.m. Wrap Up and Luncheon

2:00 p.m. Adjourn



















































# DISTRIBUTED ENERGY RESOURCES (DER) OVERVIEW

Distributed Energy Resources (DER) involves placing energy generation systems near, or at, the point of use, improving electric reliability and power quality for customers. DER compliments the existing transmission and distribution system, and enables the use of waste heat for productive purposes in combined heat and power (CHP) applications.

Distributed energy technologies include fuel cells, industrial turbines, microturbines, reciprocating engines, CHP, and thermally activated heating, cooling, and humidity control devices. Distributed energy systems include communications and control devices for efficient dispatch and operation of single units, multiple system packages, and aggregated blocks of bulk power. The primary fuel for distributed energy systems is natural gas, but renewable energy also plays an important role, including solar, hydro power, geothermal, biomass, wind, and hydrogen. (Note: Renewable technologies will not be reviewed at this meeting.)

# THE OFFICE OF DISTRIBUTED ENERGY RESOURCES

The U.S. Department of Energy created the Office of Distributed Energy Resources in November 2000 within the Office of Power Technologies. Its mission is to develop and integrate distributed generation and combined heat and power technologies and address regulatory and institutional barriers. The Office also supports the development of advanced technologies, tools, and techniques to address reliability problems and the nation's aging power delivery infrastructure.

"We foresee a world of cleaner, smaller and more efficient units of power generation. We foresee more individual choice, more competition, and a closer approximation of a true market for energy in America. And we foresee increased reliability, increased supply, and lower prices. To achieve our vision of greater individual choice, our plan embraces exploring the idea of distributed energy."

— Secretary of Energy, Spencer Abraham

# HOTEL RESERVATIONS & NFORMATION

#### Loews L'Enfant Plaza Hotel

480 L'Enfant Plaza, SW Washington, DC 20024 Phone: (202) 484-1000 Fax: (202) 646-5060

Call the hotel directly to make your reservation.

Rate: \$119.00 plus tax single occupancy (Meets government per diem) \$139.00 plus tax double occupancy

Group name: DER

Cut off date: November 14, 2001

Group rate applies three days before and three days after the meeting, based on availability.

Register online at www.energetics.com/der.html Credit payment is required to register online

#### TRAVEL \_\_\_\_

Airport: Reagan National or Dulles

International

**Taxi fare** About \$15.00 from Reagan to hotel: About \$45.00 from Dulles

Metro: L'Enfant Plaza Metro station is

located below the hotel — Orange, Blue, Yellow, or Green line to L'Enfant Plaza

Parking: For hotel guests only \$22.00/day

### CANCELLATIONS & REFUNDS

Please notify Energetics Conference Services in writing by Nov. 20, 2001, if you need to cancel your plans to attend the meeting. Refunds, less \$30.00 processing fee per registrant, will be granted to those requests received by mail or fax at Energetics by that date. Substitutions may be arranged by calling Energetics Conference Services at

(410) 953-6277.



































#### REGISTRATION -

**Fees:** \$195.00 - Discounted Registration due by November 16, 2001

\$250.00 - Registration

after November 16, 2001

Register online, by fax, or mail. Payment is required at the time of registration.

Online: Visit <a href="www.energetics.com/der.html">www.energetics.com/der.html</a>
Credit card payment is required.

Fax: Fax registration form to (410) 423-2193

Include payment information

Mail: Mail registration form and payment

information to:

Conference Services Energetics, Incorporated 7164 Gateway Drive Columbia, MD 21046 Registration will not be processed without payment. You will receive a confirmation letter when your registration is processed. The registration fee includes two continental breakfasts, two luncheons, a reception and meeting materials.

#### IMPORTANT NUMBERS & DATES

Conference Services, Energetics

Phone: (410) 953-6277 Fax: (410) 423-2193

Loews L'Enfant Plaza

Phone: (202) 484-1000 Fax: (202) 646-5060

Discounted Registration Deadline

November 16, 2001

Hotel Reservation Deadline

November 14, 2001

# PURPOSE OF THE DER CONFERENCE AND PEER REVIEW

- Review the mission, goals, objectives, strategy, program balance, leadership and productivity of the DER Program
- Learn about strategic DER efforts underway at DOE and in regional, state, and local governments, national laboratories, and other research organizations
- Explore the barriers to distributed energy from those who are leading research, development, and demonstration efforts
- Exchange ideas with other DER practitioners throughout the country

#### WHO SHOULD ATTEND

- Distributed energy resource developers, researchers, service providers
- Distributed energy customers
- Federal and State regulators
- Energy associations and consumer groups involved in DER policy and technical development



































#### DISTRIBUTED ENERGY RESOURCES •••

CREATING AN EXPANDED DER INDUSTRY

Multiple for \_\_\_

Confirmation Letter \_\_\_\_\_

\_\_\_\_ Ck# \_\_\_\_ \_\_\_Amt. Rcd.\_\_\_

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November 28-30, 2001 ■ Loews L'Enfar	nt Plaza Hotel  Washington, DC
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Title	Organization
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E-mail	
Emergency Contact / Phone	
Please check here if you require assistance. We will contact you concerning your needs.  TOUR Please check here for optional tour of the University of Maryland Test Facility, Integrated Buildings Energy System. Transportation provided.  Registration Fee: By November 16, 2001: \$195.00 After: \$250.00	
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